UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/744,622	05/07/2002	Nicholas Bachynsky	HO-P01615WO0	1907

7590 06/26/2008

David L. Fox
FULBRIGHT & JAWORSKI L.L.P.
1301 McKinney
Suite 5100
Houston, TX 77010-3095

EXAMINER	
ROYDS, LESLIE A	

ART UNIT	PAPER NUMBER
1614	

MAIL DATE	DELIVERY MODE
06/26/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/744,622	BACHYNSKY ET AL.	
	Examiner	Art Unit	
	Leslie A. Royds	1614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 December 2007 and 01 April 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *109,112-117,120 and 121* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *109,112-117,120-121* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 109, 112-117 and 120-121 are presented for examination.

Applicant's Amendment filed December 12, 2007 has been received and entered into the present application. Pursuant to the notice dated March 28, 2008, the response filed December 12, 2007 was non-compliant. Applicant's supplemental Amendment filed April 1, 2008 correcting the deficiencies outlined in the notice dated March 28, 2008 has also been received and entered into the present application.

Claims 109, 112-117 and 120-121 remain pending and under examination. Claims 109, 112, 115-117 and 120 are amended and claims 100-101, 103-108, 110-111 and 118-119 are cancelled.

Applicant's amendments and arguments, filed December 12, 2007 and April 1, 2008, have been fully considered. Rejections not reiterated from previous Office Actions are hereby withdrawn. The following rejections are either reiterated or newly applied. They constitute the complete set of rejections presently being applied to the instant application.

Claim Rejections - 35 USC § 102 (New Grounds of Rejection)

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 109, 112-113, 116 and 120-121 are rejected under 35 U.S.C. 102(b) as being anticipated by Cone Jr. (U.S. Patent No. 4,724,234; 1988).

Cone Jr. teaches a method of producing oncolysis, i.e., lysis or degeneration or death of malignant cancer cells, by concurrent administration of two therapeutic regimens, wherein the first regimen is a defined nutritional regimen to minimize the use of amino acids and fatty acids as an energy source for ATP synthesis within the cancer cell(s) (i.e., meets Applicant's requirement for a second medication to be

administered that increases the metabolic rate of the subject to be treated; see, e.g., instant claims 112 or 120), and further wherein the second regimen in the administration of 2,4-dinitrophenol in an amount sufficient to uncouple oxidative phosphorylation (col.7, l.51-col.8, l.5; col.19, l.26-39). Cone Jr. teaches the inclusion of the essential fatty acids linoleic and linolenic acids as part of the defined nutritional regimen (col.12, l.8-19) and exemplifies the use of the disclosed regimen in patient(s) with retroperitoneal tumor mass (Example 3, col.28-31) and adenocarcinoma of the prostate (Example 4, col.31-34).

Note that the instant claims (see, e.g., instant claim 109 or 116) do not, in fact, require that the subject in which the intracellular hyperthermia is induced actually suffers from an infection that results from *Borrelia burgdorferi*, *Mycobacterium leprae*, *Treponema pallidum*, HIV, hepatitis C, herpes virus or papillomavirus (instant claim 109) or an infestation that results from *Candida*, *Sporothrix schenkii*, *Histoplasma*, paracoccidiodes, *Aspergillus*, *Leishmania*, malaria, acanthomoeba or cestodes (instant claim 116). In other words, the claims as presently written require that the compound 2,4-dinitrophenol be administered to a subject for the purpose of inducing intracellular hyperthermia in said subject, wherein the amount of 2,4-dinitrophenol that is administered is sufficient to induce intracellular hyperthermia. Such limitations are clearly met by the teachings of Cone Jr. as discussed *supra*. The phrase "wherein the induced intracellular hyperthermia is used to treat infections that result" as in instant claim 109 or the phrase "wherein the induced intracellular hyperthermia is used to treat infestations that result" as in instant 116 is a statement of intent to use the induced intracellular hyperthermia for the treatment of any one of the listed infection(s) or infestation(s) recited in the instant claims, but fails to limit (1) the subject to be treated (i.e., by requiring that the subject in which the intracellular hyperthermia is induced is actually suffering from any one of the recited infections or infestations) or (2) the therapeutic objective of the claimed method (i.e., by requiring that the induced intracellular hyperthermia is specifically used to elicit treatment of one or more of the instantly claimed infections or infestations). As a result, the method practiced in Cone Jr. clearly anticipates the instant claims directed to a method for inducing intracellular

hyperthermia in a subject by administering an amount of 2,4-dinitrophenol sufficient to induce intracellular hyperthermia in said subject.

Though Cone Jr. does not expressly teach an intracellular hyperthermic effect via the induction of heat shock proteins as a result of the disclosed regimen, the administration of the same compound as claimed (i.e., 2,4-dinitrophenol) to cancerous cells (e.g., retroperitoneal or prostate) is considered to necessarily have the claimed intracellular hyperthermic effect via the induction of heat shock proteins, whether expressly recognized by Cone Jr. or not. Products of identical chemical composition cannot exert mutually exclusive properties when administered under the same circumstances or, in the present case, the same host. Please reference MPEP §2112. Though mechanisms of action of chemical entities are no doubt important contributions to scientific and pharmaceutical development, the assessment of patentability under 35 U.S.C. 102 is based upon the therapeutic applications and effects of the compounds, not the mechanism by which they exert such a therapeutic effect. Furthermore, it is generally well settled in the courts that a mechanistic property of a chemical compound, or a combination of chemical compounds, when administered under identical conditions, is necessarily present, despite the fact that it may not have been readily apparent to, or recognized by, one of ordinary skill in the art.

Claim Rejections - 35 USC § 103 (New Grounds of Rejection)

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 109, 112-113 and 114 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cone Jr. (U.S. Patent No. 4,724,234; 1988) in view of Jacob ("Cancer Chemotherapy", *National Medical Series for Independent Study: Pharmacology* (Fourth Edition), Williams and Wilkins, 1996; p.253-274).

Cone Jr. teaches a method of producing oncolysis, i.e., lysis or degeneration or death of malignant cancer cells, by concurrent administration of two therapeutic regimens, wherein the first regimen is a defined nutritional regimen to minimize the use of amino acids and fatty acids as an energy source for ATP synthesis within the cancer cell(s) (i.e., meets Applicant's requirement for a second medication to be administered that increases the metabolic rate of the subject to be treated; see, e.g., instant claims 112 or 120), and further wherein the second regimen in the administration of 2,4-dinitrophenol in an amount sufficient to uncouple oxidative phosphorylation (col.7, l.51-col.8, l.5; col.19, l.26-39). Cone Jr. teaches the inclusion of the essential fatty acids linoleic and linolenic acids as part of the defined nutritional regimen (col.12, l.8-19) and exemplifies the use of the disclosed regimen in patient(s) with retroperitoneal tumor mass (Example 3, col.28-31) and adenocarcinoma of the prostate (Example 4, col.31-34).

Note that the instant claims (see, e.g., instant claim 109) do not, in fact, require that the subject in which the intracellular hyperthermia is induced actually suffers from an infection that results from *Borrelia burgdorferi*, *Mycobacterium leprae*, *Treponema pallidum*, HIV, hepatitis C, herpes virus or papillomavirus (instant claim 109). In other words, the claims as presently written require that the compound 2,4-dinitrophenol be administered to a subject for the purpose of inducing intracellular hyperthermia in said subject, wherein the amount of 2,4-dinitrophenol that is administered is sufficient to

induce intracellular hyperthermia. Such limitations are clearly met by the teachings of Cone Jr. as discussed *supra*. The phrase "wherein the induced intracellular hyperthermia is used to treat infections that result" as in instant claim 109 is a statement of intent to use the induced intracellular hyperthermia for the treatment of any one of the listed infection(s) recited in the instant claims, but fails to limit (1) the subject to be treated (i.e., by requiring that the subject in which the intracellular hyperthermia is induced is actually suffering from any one of the recited infections) or (2) the therapeutic objective of the claimed method (i.e., by requiring that the induced intracellular hyperthermia is specifically used to elicit treatment of one or more of the instantly claimed infections). As a result, the method practiced in Cone Jr. clearly anticipates the instant claims directed to a method for inducing intracellular hyperthermia in a subject by administering an amount of 2,4-dinitrophenol sufficient to induce intracellular hyperthermia in said subject.

Though Cone Jr. does not expressly teach an intracellular hyperthermic effect via the induction of heat shock proteins as a result of the disclosed regimen, the administration of the same compound as claimed (i.e., 2,4-dinitrophenol) to cancerous cells (e.g., retroperitoneal or prostate) is considered to necessarily have the claimed intracellular hyperthermic effect via the induction of heat shock proteins, whether expressly recognized by Cone Jr. or not. Products of identical chemical composition cannot exert mutually exclusive properties when administered under the same circumstances or, in the present case, the same host. Please reference MPEP §2112. Though mechanisms of action of chemical entities are no doubt important contributions to scientific and pharmaceutical development, the assessment of patentability under 35 U.S.C. 102 is based upon the therapeutic applications and effects of the compounds, not the mechanism by which they exert such a therapeutic effect. Furthermore, it is generally well settled in the courts that a mechanistic property of a chemical compound, or a combination of chemical compounds, when administered under identical conditions, is necessarily present, despite the fact that it may not have been readily apparent to, or recognized by, one of ordinary skill in the art.

Cone Jr. fails to teach the concomitant administration of an antibacterial agent, such as, *inter alia*, a peptide antibiotic (claim 114).

Jacob teaches various natural antibiotic compounds as effective cancer chemotherapeutic agents, including the cyclic polypeptide antibiotic dactinomycin (also known as actinomycin D; p.263), the glycopeptide antibiotic bleomycin, which functions to generate free radical oxygen (p.265) and the quinone antibiotic mitomycin (also known as mitomycin C; p.266), which also functions to generate oxygen-derived free radicals (p.266).

One of ordinary skill in the art would have found it *prima facie* obvious to administer the anti-cancer antibiotic(s) (such as, *inter alia*, the cyclic polypeptide antibiotic dactinomycin) useful for treating cancer as disclosed by Jacob with the method for producing oncolysis of malignant cancer cells in a cancer patient using 2,4-dinitrophenol as disclosed by Cone Jr. Such a person would have been motivated to do so because each was known to have efficacy in the treatment of cancer patients and, thus, the suggestion to make such a combination flows logically from the very fact that each was known in the prior art to have the same therapeutic utility and, in turn, raises the reasonable expectation of success that the two therapies, when combined, would have, at minimum, additive, if not synergistic, cancer-ameliorating effects when combined.

As stated in *In re Kerkhoven*, 626 F.2d 846, 205 USPQ 1069, at page 1072 (CCPA 1980): "It is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition which is to be used for the very same purpose. *In re Susi*, 58 CCPA 1074, 1079-80, 440 F.2d 442, 445, 169 USPQ 423, 426 (1971); *In re Crockett*, 47 CCPA 1018, 1020-21, 279 F.2d 274, 276-277, 126 USPQ 186, 188 (CCPA 1960)."

Claims 109, 112-113 and 115 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cone Jr. (U.S. Patent No. 4,724,234; 1988) in view of Martiniello-Wilks et al. ("In Vivo Gene

Therapy for Prostate Cancer: Preclinical Evaluation of Two Different Enzyme-Directed Prodrug Therapy Systems Delivered by Identical Adenovirus Vectors", *Hum Gene Ther*, 1998 Jul 20; 9(11):1617-1626).

Cone Jr. teaches a method of producing oncolysis, i.e., lysis or degeneration or death of malignant cancer cells, by concurrent administration of two therapeutic regimens, wherein the first regimen is a defined nutritional regimen to minimize the use of amino acids and fatty acids as an energy source for ATP synthesis within the cancer cell(s) (i.e., meets Applicant's requirement for a second medication to be administered that increases the metabolic rate of the subject to be treated; see, e.g., instant claims 112 or 120), and further wherein the second regimen in the administration of 2,4-dinitrophenol in an amount sufficient to uncouple oxidative phosphorylation (col.7, l.51-col.8, l.5; col.19, l.26-39). Cone Jr. teaches the inclusion of the essential fatty acids linoleic and linolenic acids as part of the defined nutritional regimen (col.12, l.8-19) and exemplifies the use of the disclosed regimen in patient(s) with retroperitoneal tumor mass (Example 3, col.28-31) and adenocarcinoma of the prostate (Example 4, col.31-34).

Note that the instant claims (see, e.g., instant claim 109) do not, in fact, require that the subject in which the intracellular hyperthermia is induced actually suffers from an infection that results from *Borrelia burgdorferi*, *Mycobacterium leprae*, *Treponema pallidum*, HIV, hepatitis C, herpes virus or papillomavirus (instant claim 109). In other words, the claims as presently written require that the compound 2,4-dinitrophenol be administered to a subject for the purpose of inducing intracellular hyperthermia in said subject, wherein the amount of 2,4-dinitrophenol that is administered is sufficient to induce intracellular hyperthermia. Such limitations are clearly met by the teachings of Cone Jr. as discussed *supra*. The phrase "wherein the induced intracellular hyperthermia is used to treat infections that result" as in instant claim 109 is a statement of intent to use the induced intracellular hyperthermia for the treatment of any one of the listed infection(s) recited in the instant claims, but fails to limit (1) the subject to be treated (i.e., by requiring that the subject in which the intracellular hyperthermia is induced

is actually suffering from any one of the recited infections) or (2) the therapeutic objective of the claimed method (i.e., by requiring that the induced intracellular hyperthermia is specifically used to elicit treatment of one or more of the instantly claimed infections). As a result, the method practiced in Cone Jr. clearly anticipates the instant claims directed to a method for inducing intracellular hyperthermia in a subject by administering an amount of 2,4-dinitrophenol sufficient to induce intracellular hyperthermia in said subject.

Though Cone Jr. does not expressly teach an intracellular hyperthermic effect via the induction of heat shock proteins as a result of the disclosed regimen, the administration of the same compound as claimed (i.e., 2,4-dinitrophenol) to cancerous cells (e.g., retroperitoneal or prostate) is considered to necessarily have the claimed intracellular hyperthermic effect via the induction of heat shock proteins, whether expressly recognized by Cone Jr. or not. Products of identical chemical composition cannot exert mutually exclusive properties when administered under the same circumstances or, in the present case, the same host. Please reference MPEP §2112. Though mechanisms of action of chemical entities are no doubt important contributions to scientific and pharmaceutical development, the assessment of patentability under 35 U.S.C. 102 is based upon the therapeutic applications and effects of the compounds, not the mechanism by which they exert such a therapeutic effect. Furthermore, it is generally well settled in the courts that a mechanistic property of a chemical compound, or a combination of chemical compounds, when administered under identical conditions, is necessarily present, despite the fact that it may not have been readily apparent to, or recognized by, one of ordinary skill in the art.

Cone Jr. fails to teach the concomitant administration of an antiviral agent, such as, *inter alia*, ganciclovir (claim 115).

Martiniello-Wilks et al. teaches the use of *in vivo* gene therapy comprising a combination of the herpes simplex virus thymidine kinase (HSVTK) in combination with ganciclovir (GCV) in mice exhibiting prostate tumor (abstract; col.1, para.4, p.1618). Martiniello-Wilks et al. further teaches that

tumor growth was significantly suppressed following a single course of HSVTK/GCV treatment and discloses that the HSVTK/GCV therapy interrupts the growth of aggressive human prostate cancer cells *in vivo* (abstract).

One of ordinary skill in the art would have found it *prima facie* obvious to administer the HSVTK/ganciclovir therapy useful for treating prostate cancer as disclosed by Martiniello-Wilks et al. with the method for producing oncolysis of malignant cancer cells in a cancer patient using 2,4-dinitrophenol as disclosed by Cone Jr. Such a person would have been motivated to do so because each was known to have efficacy in the treatment of cancer patients and, thus, the suggestion to make such a combination flows logically from the very fact that each was known in the prior art to have the same therapeutic utility and, in turn, raises the reasonable expectation of success that the two therapies, when combined, would have, at minimum, additive, if not synergistic, cancer-ameliorating effects when combined.

As stated in *In re Kerkhoven*, 626 F.2d 846, 205 USPQ 1069, at page 1072 (CCPA 1980): "It is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition which is to be used for the very same purpose. *In re Susi*, 58 CCPA 1074, 1079-80, 440 F.2d 442, 445, 169 USPQ 423, 426 (1971); *In re Crockett*, 47 CCPA 1018, 1020-21, 279 F.2d 274, 276-277, 126 USPQ 186, 188 (CCPA 1960)."

Claims 116-117 and 120-121 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cone Jr. (U.S. Patent No. 4,724,234; 1988) in view of Camden (WO 97/05870; 1997).

Cone Jr. teaches a method of producing oncolysis, i.e., lysis or degeneration or death of malignant cancer cells, by concurrent administration of two therapeutic regimens, wherein the first regimen is a defined nutritional regimen to minimize the use of amino acids and fatty acids as an energy source for ATP synthesis within the cancer cell(s) (i.e., meets Applicant's requirement for a second medication to be

administered that increases the metabolic rate of the subject to be treated; see, e.g., instant claims 112 or 120), and further wherein the second regimen in the administration of 2,4-dinitrophenol in an amount sufficient to uncouple oxidative phosphorylation (col.7, l.51-col.8, l.5; col.19, l.26-39). Cone Jr. teaches the inclusion of the essential fatty acids linoleic and linolenic acids as part of the defined nutritional regimen (col.12, l.8-19) and exemplifies the use of the disclosed regimen in patient(s) with retroperitoneal tumor mass (Example 3, col.28-31) and adenocarcinoma of the prostate (Example 4, col.31-34).

Note that the instant claims (see, e.g., instant claim 116) do not, in fact, require that the subject in which the intracellular hyperthermia is induced actually suffers from an infestation that results from *Candida*, *Sporothrix schenkii*, *Histoplasma*, paracoccidiodes, *Aspergillus*, *Leishmania*, malaria, acanthomoeba or cestodes (instant claim 116). In other words, the claims as presently written require that the compound 2,4-dinitrophenol be administered to a subject for the purpose of inducing intracellular hyperthermia in said subject, wherein the amount of 2,4-dinitrophenol that is administered is sufficient to induce intracellular hyperthermia. Such limitations are clearly met by the teachings of Cone Jr. as discussed *supra*. The phrase "wherein the induced intracellular hyperthermia is used to treat infestations that result" as in instant 116 is a statement of intent to use the induced intracellular hyperthermia for the treatment of any one of the listed infection(s) or infestation(s) recited in the instant claims, but fails to limit (1) the subject to be treated (i.e., by requiring that the subject in which the intracellular hyperthermia is induced is actually suffering from any one of the recited infestations) or (2) the therapeutic objective of the claimed method (i.e., by requiring that the induced intracellular hyperthermia is specifically used to elicit treatment of one or more of the instantly claimed infestations). As a result, the method practiced in Cone Jr. clearly anticipates the instant claims directed to a method for inducing intracellular hyperthermia in a subject by administering an amount of 2,4-dinitrophenol sufficient to induce intracellular hyperthermia in said subject.

Though Cone Jr. does not expressly teach an intracellular hyperthermic effect via the induction of heat shock proteins as a result of the disclosed regimen, the administration of the same compound as claimed (i.e., 2,4-dinitrophenol) to cancerous cells (e.g., retroperitoneal or prostate) is considered to necessarily have the claimed intracellular hyperthermic effect via the induction of heat shock proteins, whether expressly recognized by Cone Jr. or not. Products of identical chemical composition cannot exert mutually exclusive properties when administered under the same circumstances or, in the present case, the same host. Please reference MPEP §2112. Though mechanisms of action of chemical entities are no doubt important contributions to scientific and pharmaceutical development, the assessment of patentability under 35 U.S.C. 102 is based upon the therapeutic applications and effects of the compounds, not the mechanism by which they exert such a therapeutic effect. Furthermore, it is generally well settled in the courts that a mechanistic property of a chemical compound, or a combination of chemical compounds, when administered under identical conditions, is necessarily present, despite the fact that it may not have been readily apparent to, or recognized by, one of ordinary skill in the art.

Cone Jr. fails to teach the concomitant administration of an antifungal agent, such as, *inter alia*, griseofulvin (claim 117).

Camden teaches a pharmaceutical composition for the treatment of cancers or tumors in mammals that comprises griseofulvin (abstract). Camden further teaches that the disclosed compositions can be used to inhibit the growth of leukemia, tumors and cancer cells in humans or animals by administering an effective amount of griseofulvin orally, rectally, topically, parenterally or intravenously (p.2, l.10-13).

One of ordinary skill in the art would have found it *prima facie* obvious to administer the pharmaceutical composition containing griseofulvin useful for treating cancer as disclosed by Camden with the method for producing oncolysis of malignant cancer cells in a cancer patient using 2,4-dinitrophenol as disclosed by Cone Jr. Such a person would have been motivated to do so because each

was known to have efficacy in the treatment of cancer patients and, thus, the suggestion to make such a combination flows logically from the very fact that each was known in the prior art to have the same therapeutic utility and, in turn, raises the reasonable expectation of success that the two therapies, when combined, would have, at minimum, additive, if not synergistic, cancer-ameliorating effects when combined.

As stated in *In re Kerkhoven*, 626 F.2d 846, 205 USPQ 1069, at page 1072 (CCPA 1980): "It is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition which is to be used for the very same purpose. *In re Susi*, 58 CCPA 1074, 1079-80, 440 F.2d 442, 445, 169 USPQ 423, 426 (1971); *In re Crockett*, 47 CCPA 1018, 1020-21, 279 F.2d 274, 276-277, 126 USPQ 186, 188 (CCPA 1960)."

Conclusion

Rejection of claims 109, 112-117 and 120-121 is proper.

No claims of the present application are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leslie A. Royds whose telephone number is (571)-272-6096. The examiner can normally be reached on Monday-Friday (9:00 AM-5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin H. Marschel can be reached on (571)-272-0718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Leslie A. Royds/
Patent Examiner, Art Unit 1614

June 19, 2008

/Ardin Marschel/
Supervisory Patent Examiner, Art Unit 1614